

**CLAIMS**

1. Apparatus for compacting a powder comprising:

iv) a compaction chamber (4);

v) dosing means (20; 50) adapted to dispense a powder through said  
entrance and into said compaction chamber; and

vi) a powder supply;

wherein said dosing means (20;50) comprises a plurality of juxtaposed components (22, 23; 52, 53) between which components is formed a dosing cavity (21) for receiving powder from the powder supply and dispensing powder to the compaction chamber, wherein the volume of the dosing cavity (21) and at least the cross-sectional area of the cavity perpendicular to the direction of flow of the powder when the powder is dispensed into the compaction chamber (4) are variable by adjustment of the respective positions of the juxtaposed components (22, 23; 52, 53).

2. Apparatus as claimed in claim 1, wherein the dosing means (20, 50) comprises at least two juxtaposed plates (22, 23; 52, 53) with interleaving parts which together form a dosing cavity (21; 54).

3. Apparatus as claimed in claim 1 or claim 2, wherein the dosing means (20, 50) is movable between a first position, where the powder is received into the dosing cavity (21; 54), and a second position, where the powder is dispensed from the dosing cavity into the compaction chamber (4).

4. Apparatus as claimed in claim 3, wherein the components (22, 23; 52, 53) of the dosing means (20; 50) are adjustable such that in the first position the dosing cavity (21; 54) receives a specific volume of powder, which powder has a known composition and bulk density, and wherein when the dosing means is moved into the second position, the dosing cavity (21; 54) is over the entrance to the compaction chamber (4) and the powder can be dispensed into the chamber.

5. Apparatus as claimed in claim 4, wherein when the dosing means (20; 50) is in the second position, the juxtaposed components may be adjusted until the cross-sectional area of the dosing cavity is reduced to the point where it is substantially the same as the cross-sectional area of the compaction chamber.
- 5 6. Apparatus as claimed in claim 5, wherein when the dosing means remains in position over the entrance to the compaction chamber, a piston is able to enter the chamber by passing through the dosing cavity.
7. Apparatus as claimed in claim 6, wherein before the piston (9; 82) passes through the dosing cavity (21; 54), the components (22, 23; 52, 53) of the dosing means (20; 50) are adjusted to provide the cavity with a cross-sectional area substantially the same as the cross-sectional area of the piston chamber.
- 10 8. Apparatus as claimed in any one of the preceding claims wherein the apparatus comprises a plurality of dies and compaction means and the dosage means comprises sufficient components to provide a dosage cavity for each compaction means and die.
- 15 9. Apparatus for compacting a powder, comprising:  
  
a powder supply conduit (40);  
  
a compaction chamber;  
  
dosing means (20) comprising a plurality of interleaved components defining dosing cavity for accommodating powder en route from the powder conduit to the compaction chamber, said dosing means being moveable relative to said supply conduit and said compaction chamber, such that the dosing cavity can adopt a powder receiving position in communication with said powder supply conduit and a powder dispensing position in communication with said compaction chamber; and  
  
powder compaction means capable of compacting powder in said compaction chambers, wherein, in use, internal spaces of the apparatus through which the
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powder passes from said supply conduit to said compaction chamber comprise a closed system.

10. Apparatus for compacting a powder comprising:

a powder supply;

5 a compaction chamber;

dosing means (20; 50) comprising a dosing cavity defined by a plurality of juxtaposed components moveable in relation to one another such that the volume of the dosing cavity is adjustable so as to be greater when receiving powder from the powder supply than when dispensing powder to the  
10 compaction chamber.

11. Apparatus as claimed in claim 10, wherein the compaction chamber is disposed laterally from and below the powder supply, such that said dosing cavity can be translated from a first position for receiving powder from the powder supply substantially under the force of gravity and a second position  
15 for dispensing powder to the compaction chamber.